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Ultrasound and X-ray scans

Ultrasound scans and X-rays are sometimes used to diagnose and find out about some types of lymphoma.

We have separate information **about being referred for tests and scans**, **CT and PET/CT scan**, **MRI scan**, and **waiting for test results**. You might also be interested in our **video about scans for lymphoma**: **https://www.youtube.com/watch?v=dqHR5mZ_ktc**

On this page

We have separate information about the topics in **bold font**. Please get in touch if you'd like to request copies or if you would like further information about any aspect of lymphoma. Phone 0808 808 5555 or email **information@lymphoma-action.org.uk**.

What is an ultrasound scan?

Ultrasound is a type of sound energy. An ultrasound scan (sometimes called a sonogram) uses soundwaves to take pictures inside your body.

You might have an ultrasound scan if you have lymphoma, or your doctor suspects you could have lymphoma. This could be to:

- examine **lymph nodes** that are near the surface of your skin
- help your doctor find the best place to take a **biopsy**.

Ultrasound image of lymph glands (lymph nodes) in the neck © The Royal Marsden NHS Foundation Trust.

During an ultrasound scan, a probe (transducer) makes high-energy sound waves. These are too high-pitched for humans to hear. The sound waves travel through your body and bounce off tissues and organs inside your body. As they do, they make echoes.

The ultrasound probe records the echoes and sends the information to a computer. The computer uses the information to build a picture of the inside of your body. This shows on the computer screen.

You can find out more about **ultrasound scans on the Radiology info.org website**.

Preparing for an ultrasound scan

Before the day of your scan, you'll be given information about how to prepare. This includes about whether:

- to have a full or an empty bladder for the scan
- you should not eat for a number hours before the scan – you will be told how long.

If you have any **questions about your scan** before the day, contact the hospital.

Having an ultrasound scan

Usually, you have an ultrasound as an outpatient, which means you don't have to stay in hospital overnight.

Having an ultrasound scan is painless.

The procedure depends on which type of ultrasound scan you have:

- **external ultrasound scan**
- **internal ultrasound scan**.

External ultrasound scan

External ultrasound scans are the most common type of ultrasound scan.

You might have an external ultrasound scan to examine lumps near the surface of your skin. Examples include lumps in your neck, armpit or groin, or in your tummy (abdomen).

The scan takes about 15 to 30 minutes.

- You lie on a couch. The health professional carrying out the procedure rubs a cold gel onto the skin over the area of your body to be examined.
- They move a hand-held probe over your skin. The probe looks a bit like a microphone.
- As they move the probe around, a picture of the inside of your body appears on a computer screen. To help get a better picture, you might be asked to do

certain things. For example, to lie on your side or to take a deep breath and hold it for a few seconds.

Internal ultrasound scan

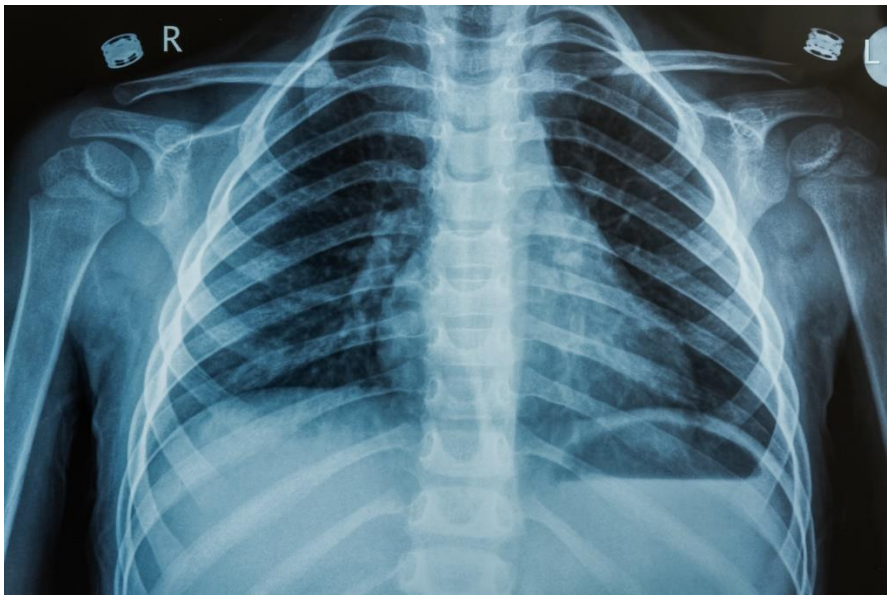
Internal ultrasound scans might be used in certain situations:

- In females to look at pelvic organs. The ultrasound probe is placed inside the vagina.
- Through a procedure called **endoscopy** (sometimes called a 'camera test'), for example through the food pipe (oesophagus) or windpipe (trachea). This is usually to show the best place to do a **biopsy**. You might be given a sedative drug to relax you, to make the procedure more comfortable. This type of ultrasound usually takes under 30 minutes but you'd need to be in hospital for longer – find more information about **endoscopic ultrasound on the Cancer Research UK website**.

You can usually go straight home after an ultrasound scan.

What is an X-ray?

An X-ray uses high-energy waves, similar to radio waves. These waves take pictures through your body.



A chest X-ray scan image

The X-ray machine produces X-rays. The X-rays pass through your body. They are captured in a film placed underneath the X-rayed part of your body.

As they pass through your body, the X-rays lower in strength by different amounts. X-rays:

- pass easily through air and soft structures, like your lungs – these areas look black on the X-ray picture
- pass less easily through muscle, fats and fluid – these areas show up in shades of grey
- are absorbed by bones, which look white on the X-ray picture.

The X-ray machine sends the picture straight to a computer screen.

You can find out more about **X-ray scans on the Radiology info.org website**.

It's not possible to tell from X-rays alone whether or not you have lymphoma. A **biopsy** is the standard way of confirming a diagnosis. However, an X-ray could help to:

- Find out what might be causing your **symptoms**. For example, you might have a chest X-ray if you are short of breath or have a cough. You might have a tummy (abdominal) X-ray if you have pain in your tummy or a change of bowel habits, such as diarrhoea.
- Check for **swollen lymph nodes** in your chest.
- Check the position of a central line (**central venous catheter**), if you need one to have your **chemotherapy**.
- Check the health of your heart and lungs before you start some types of **treatment**.
- Check for any problems with your bones.

Preparing for an X-ray

Your medical team should tell you if you need to do anything to prepare for your X-ray scan. This includes about **anything you should not wear or take into the scan**.

There are two main types of X-ray scan:

- **Contrast X-rays** use a special dye (contrast agent) to help certain parts of your body show up more clearly.
- **Plain X-rays** are like having a photograph taken. They don't use any dye.

Simple ('plain') X-rays

With plain X-rays, you can eat and drink as normal on the day of your scan. Your medical team should tell you if you need to stop taking any medication beforehand.

Plain X-rays usually take around 15 minutes, depending on which areas of your body need to be scanned.

Contrast X-rays

How you have your contrast agent depends on which part of your body is being X-rayed. You might be given it as a liquid to drink (sometimes called a barium swallow). However, some contrast agents are given by injection, either into a vein in your arm or back passage (an 'enema').

The NHS website has more information about **contrast agents used for X-rays**.

Allergic reactions to contrast agents

There is a small risk of having an allergic reaction to a contrast agent. Generally, reactions are mild.

Hospital staff monitor you carefully and treat you if this is needed. Tell a member of staff if you feel unwell during or after having the contrast agent.

If you have a known allergy to the contrast agent being used, then you might have your scan without a contrast injection. Your doctors will choose the most suitable scan for you.

Having an X-ray

Usually, you have an X-ray at your local hospital as an outpatient, which means that you don't have to stay in hospital overnight.

Having an X-ray is painless.

On the day of your scan, the staff in the scanning department ask you whether you are, or could be **pregnant**.

- You might be asked to take off any metal you're wearing, for example, items with a zip, jewellery, a belt, watch, or underwired bra.
- If you wear glasses, you are likely to need to remove these if your face is being scanned.
- You sit, lie or stand to have the X-ray scan – you are not closed in.
- The radiographer checks that you're in the correct position.
- During the scan, the radiographer stands behind a clear screen or wears a lead apron. This is to protect them from frequent exposure to X-rays.
- You'll be asked to keep very still during the scan. You might be asked to hold your breath for a few seconds to help with this.

You can go straight home after an X-ray. You won't be radioactive (giving off radiation energy) and there aren't any precautions you need to take.

Frequently asked questions about ultrasound scans and X-rays for lymphoma

Below are some questions people often have. Speak to your medical team for advice specific to your situation.

Who carries out an ultrasound scan?

A doctor, radiographer or ultrasound technician (sonographer) does the ultrasound.

Who carries out an X-ray scan?

A radiographer does the X-ray scan.

Are ultrasound and X-ray scans safe?

Doctors only ask you to have a scan if they believe that it is safe and helpful. They weigh up the possible risks and benefits before they decide to do any type of scan.

X-rays use a small and safe amount of radiation. However, you won't be radioactive after an X-ray scan.

Ultrasound scans do not use radiation.

Can I take medication before the scan?

It is generally safe to take any prescription medication on the day of your appointment. However, follow the advice of your hospital team.

Will I need to take my clothes off?

You might need to take off some of your clothes if they are covering the part of your body that is being scanned – hospitals offer a gown if this is the case. You can keep the rest of your clothes on. If you would prefer that the health professional doing the scan is the same sex as you, ask if this is possible before the day of your scan. You could also ask about having another member of hospital staff (chaperone) with you during an ultrasound scan.

Are scans painful?

Ultrasound and X-ray scans for lymphoma aren't painful.

What should I do if I feel worried about having the scan?

Talk to a member of your medical team if you feel anxious about having a scan. They can answer any questions you have and might suggest ways of coping with your anxiety.

If you feel very anxious, you might be able to have an anti-anxiety (sedative) drug before your scan. If you think this could help you, talk to the staff in the scanning department before the day of your appointment about this. If you have an anti-anxiety drug, you should not drive for the rest of the day, so you might need to arrange transport home.

Can I take someone with me to my scan?

You can take someone, such as a friend or family member, to the hospital with you. However, for most scans, they will need to wait in a different room while you have your scan.

Can I have a scan if I am pregnant or breastfeeding?

Ultrasound scans

Ultrasound scans are safe for women who are pregnant or breastfeeding. There are no known risks to babies from ultrasound.

X-rays

There is a small risk to an unborn baby exposed to radiation during an X-ray scan. The risk depends on the stage of the pregnancy and the part of the body scanned.

Doctors carefully assess the risks and benefits of giving people who are pregnant an X-ray scan. If necessary, they will protect your baby by giving you a lead apron to wear.

It is safe to breastfeed after an X-ray scan. This is because there aren't any X-rays inside your body after the scan.

When will I get the results of the scan?

Your medical team should be able to give you an idea of when to expect your test results. Staff in the scanning department won't be able to give you your scan results while you're at the hospital.

The person doing the scan isn't usually trained to understand what the images mean. Instead, this information needs to be sent to a specialist.

The expert uses the scan and the results of all your other tests to help them work out what your scan pictures mean.

For some people, **waiting for test results** can be a particularly anxious time. Although the wait might feel long, it is important that doctors collect all of the information they need so that they can plan the best treatment for you. If you'd like to talk about how you're feeling, our **helpline team** is here to support you.

Will I have scans during follow-up?

You might have a scan at the end of your treatment to check how well your lymphoma has responded. They are not routinely used as part of **follow-up** as there

is no evidence to suggest that follow-up scans for lymphoma change lymphoma treatment or outcomes.

References

The full list of references for this page is available on our website. Alternatively, email publications@lymphoma-action.org.uk or call 01296 619409 if you would like a copy.

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